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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,578	09/19/2005	Takato Masuda	017700-0178	1198

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EXAMINER	
ALI, MOHAMMAD M	
ART UNIT	**PAPER NUMBER**
3744	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/549,578	MASUDA ET AL.	
	Examiner	Art Unit	
	MOHAMMAD M. ALI	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 January 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 10-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *11-18* is/are allowed.

6)☒ Claim(s) *10* is/are rejected.

7)☒ Claim(s) *1-8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Objections

Claims 1-8 are objected to because of the following informalities: The word "sail" line 12 makes the above claims objected. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirose et al., (2001-202837 A) in view of Graneau et al., (US 3,646,243) Hirose et al. disclose method of operating a superconducting cable 2 using a conductor cooled by a refrigerant I/O to transmit electric power, characterized in that refrigerant's temperature is changed in accordance with a transmission capacity of a superconducting cable 2.

See Fig.1-2, Para [0002] and [0003], [0004], [0005], [0006], [0007] and [0010].; Para [0003] states cooling system including a freezer or a thermal-conversion machine in the longitudinal direction of the cable for every constant interval, in order to always hold a picture superconductivity cable to very low temperature. This cooling system need to suppress a temperature change for the liquid nitrogen in which temperature rose with the generating heat. Therefore, the installation zone length of the processing quantity of heat and cooling system of a refrigerant flow rate and a cooling system is decided to enter in the above-mentioned widthat the time of overload, the refrigerant flow rate is made to increase to cooling near an applicable portion intensively. This disclosure is supporting “temperature is changed in accordance with a transmission capacity of a superconducting cable. Para [0004] states, The liquid nitrogen cooled by the cooling system must hold the temperature in service temperature variation width----. This supports that the variation of cooling load must be meet by holding the temperature in the service temperature variation width. Para [0005] and [0006] state how to increase electric capacity in a superconductive cable. Para [0007] states how to provide more low temperature in times of need. Para [0010] states how to increase transmission capacity. Horose et al., disclose the invention as claimed as stated above except plurality of cable circuit, control mechanism and switching mechanism and a failed circuit to provide refrigerant to a good circuit. Graneau et al., teach the use of plurality of superconducting cable circuits 10 and 11; a control mechanism 17 and switching mechanism 60, 61, 62, 63, 64 and Greneau et al., also teach to utilize to cool one electrical circuit in the event of break down of the other (See claim 3) in a

superconductive cooling circuit for the purpose of controlling a cooling circuits diverting the fluid in various flow paths to meet the cooling demand in various situation. As the cooling circuit can be switched to various flow path an ordinary skill of art obviously able to know how the diversion of a cooling circuit from a blocked line to another non blocked line can be made in order to block supply of the refrigerant to the unavailable superconducting cable and allow supply of refrigerant to a remaining good superconducting cable for claim as taught by claim 3 above. Graneau et al also disclose in Figs 1 and 5 (wherein the Fig. 5 is a modification of Fig 1) that each of power circuits 10 and 11 contains three parallel refrigerant circuits through three conductors 12 with two refrigerators 17 and 17' connecting the power circuits 10 and 11. (See column 3, lines 56-70).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of operating a super conducting cable of Hirose et al., in view of Greneau et al., such that plurality of superconducting cable circuits, a control mechanism, a switching mechanism 60, 61, 62, and a fail safe mechanism as taught by claim 3 of Greneau et al., could be provided in order to run the super conducting cable cooling circuits and provide fail to the breakdown circuit.

Allowable Subject Matter

Claims11-18 are allowed.

Response to Arguments

Applicant's arguments filed 01/06/09 have been fully considered but they are not persuasive. The Applicant argues for claim 10 that Graneau et al fail to recite a parallel refrigerant flow path. . Therefore, claim 10 is believed to be allowable.

The Examiner disagrees.

Graneau et al disclose parallel refrigerant circuits flowing through three parallel conductors (12) connected by manifolds (19) and (20). See Figs 1 and 5 and column 3, lines 56-70.

Therefore, Graneau et al fail to recite a parallel refrigerant flow path and claim 10 is believed to be allowable is not correct. Therefore, the rejection to claim 10 is still valid.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MOHAMMAD M. ALI whose telephone number is (571)272-4806. The examiner can normally be reached on maxiflex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J. Tyler can be reached on 571-272-4808. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mohammad M Ali/
Primary Examiner, Art Unit 3744